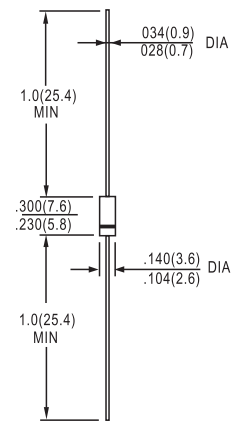


FEATURES

- Diffused Junction
- Ultra-Fast Switching for High Efficiency
- High Current Capability and Low Forward Voltage Drop
- Surge Overload Rating to 60A Peak
- Low Reverse Leakage Current
- **Lead Free Finish, RoHS Compliant (Note 4)**

Mechanical Data

- Case: Molded Plastic
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish – Bright Tin. Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Type Number
- Mounting Position: Any
- Weight: 0.4 grams (approximate)



DO-15

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

| Characteristic | Symbol | UF 2001 | UF 2002 | UF 2003 | UF 2004 | UF 2005 | UF 2006 | UF 2007 | Unit | | |
|---|-----------------|-------------|---------|---------|---------|---------|---------|---------|------|---------------|------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V | | |
| Working Peak Reverse Voltage | V_{RWM} | | | | | | | | | | |
| DC Blocking Voltage | V_R | | | | | | | | | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V | | |
| Average Rectified Output Current (Note 1) | I_O | 2.0 | | | | | | | A | | |
| @ $T_A = 50^\circ\text{C}$ | | | | | | | | | | | |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 60 | | | | | | | A | | |
| Forward Voltage | V_{FM} | 1.0 | | 1.3 | | 1.7 | | | V | | |
| Peak Reverse Current | I_{RM} | 5.0 | | | | | | 100 | | μA | |
| at Rated DC Blocking Voltage | | | | | | | | | | | |
| Reverse Recovery Time (Note 3) | t_{rr} | 50 | | | | 75 | | | | ns | |
| Typical Junction Capacitance (Note 2) | C_j | 50 | | | | 30 | | | | pF | |
| Typical Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 50 | | | | | | | | | K/W |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | | | | | | | | | $^\circ\text{C}$ |

- Notes:
1. Valid provided that leads are maintained at ambient temperature at a distance of 9.5mm from the case.
 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
 3. Measured at $I_F = 0.5\text{A}$, $I_R = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$. See figure 5.
 4. RoHS revision 13.2.2003. Glass and High Temperature Solder Exemptions Applied, see *EU Directive Annex Notes 5 and 7*.

RATINGS AND CHARACTERISTIC CURVES UF2001 THRU UF2007

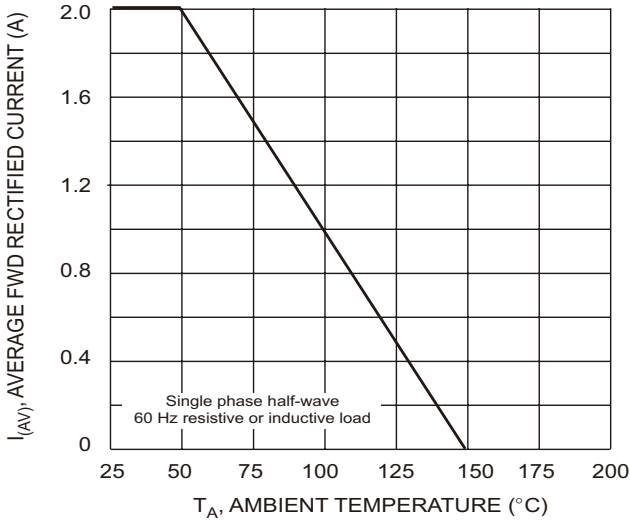


Fig. 1 Forward Current Derating Curve

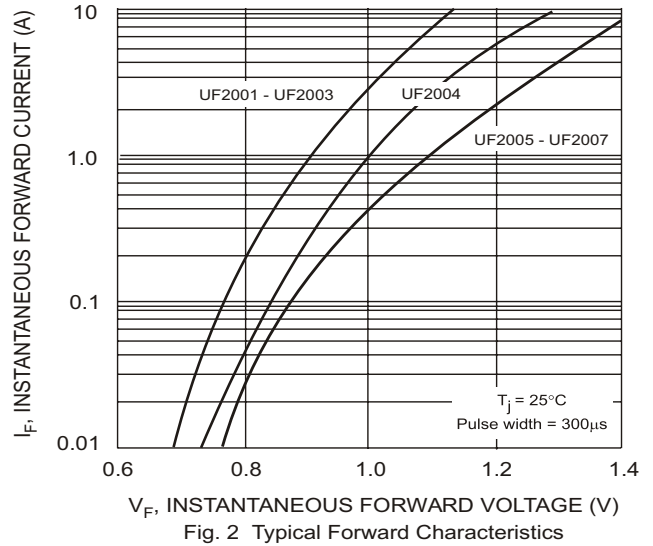


Fig. 2 Typical Forward Characteristics

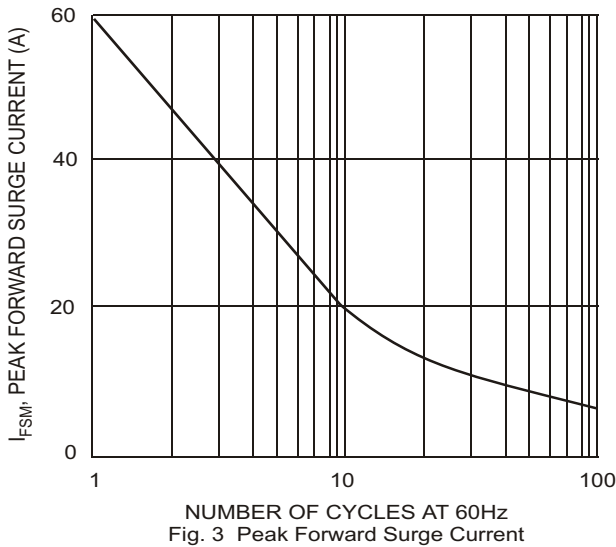


Fig. 3 Peak Forward Surge Current

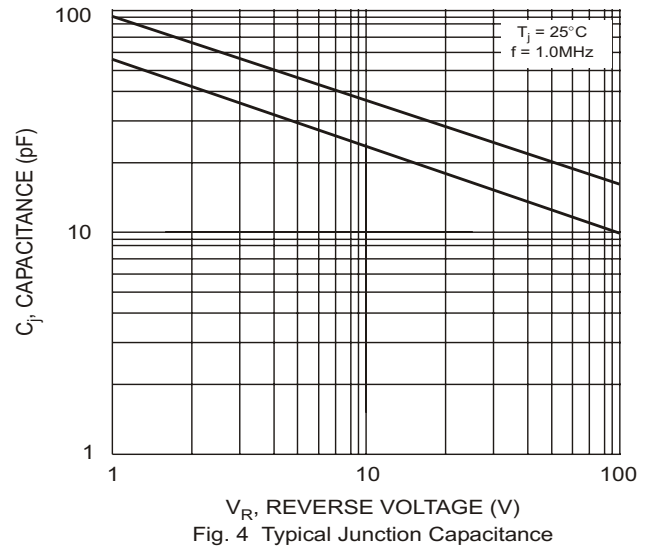
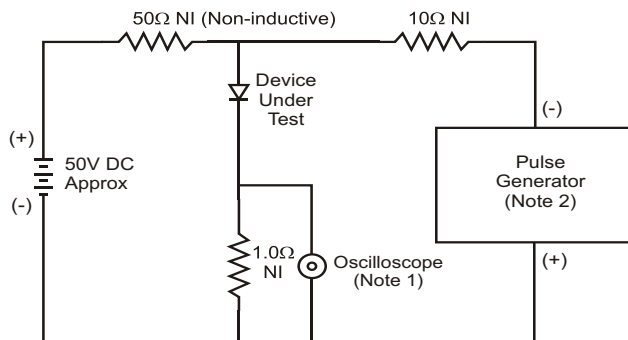
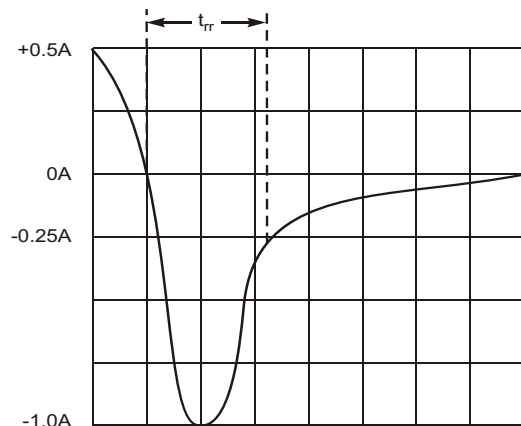


Fig. 4 Typical Junction Capacitance



- Notes:
 1. Rise Time = 7.0ns max. Input Impedance = 1.0M Ω , 22pF.
 2. Rise Time = 10ns max. Input Impedance = 50 Ω .



Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit